DOCUMENT RESUME

ED 218 640 CS 207 055

AUTHOR Edeani, David O.
TITLE Role of Information Relevance, Source Credibility, and Decisional Consequence on Attitude Change, and the Verbal Attitude-Overt Behavior Correspondence.
PUB DATE Jul 82
NOTE 43p.; Paper presented at the Annual Meeting of the Association for Education in Journalism (65th, Athens, OH, July 25-28, 1982).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adoption (Ideas); *Attitude Change; *Attitude Measures; *Behavioral Science Research; Behavior Change; Cognitive Measurement; College Students; Communication Research; Conflict Resolution; *Credibility; Higher Education; Motivation Techniques; *Persuasive Discourse

ABSTRACT

A serious problem in the area of attitude research is the low relationship between verbal attitude and supposedly related overt behavior. A study tested a model derived from M. Deutsch's proposition on persuasive communication stating that for communication to be effective in a conflict situation, it must convey to the information receiver the basic elements of speciticity of the source's recommendations, costs that would result from compliance with the recommendations, values and benefits that would accrue to the receiver for complying with the recommendations, harmful consequences that would result from noncompliance, and expressions of the source's power to induce compliance. An attitude questionnaire was administered to 353 undergraduate students to measure their attitudes toward a "petition" directed toward the United States Congress to speed up passage of bipartisan legislation to establish a national health insurance program. Results provided strong support for the hypothesis that information relevance, source credibility, and decisional consequence would collectively and individually influence attitude change. The measurement of consequence as the quotient of the value/cost measures had a similar effect on the motivational component of attitude. Together the results support the assumption that cognition provides the basis for the affect that the individual expresses, and that motivation represents the dispositional (readiness-to-act) character of the individual's attitude. (HOD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED218640

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ROLE OF INFORMATION RELEVANCE, SOURCE CREDIBILITY, AND DECISIONAL CONSEQUENCE ON ATTITUDE CHANGE, AND THE VERBAL ATTITUDE-OVERT BEHAVIOR CORRESPONDENCE

David O. Edeani

School of Journalism
Kent State University
Kent, Ohio 44242

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

David O. Edeani

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CS207065

Research paper presented to the Theory and Methodology Division, Association for Education in Journalism, annual convention, Athens, Ohio, July, 1982

ROLE OF INFORMATION RELEVANCE, SOURCE CREDIBILITY, AND DECISIONAL CONSEQUENCE ON ATTITUDE CHANGE, AND THE VERBAL ATTITUDE-OVERT BEHAVIOR CORRESPONDENCE

One of the commonest and most serious problems in the area of attitude research is the very low relationship between verbal attitude and supposedly related overt behavior. Ever since the classic study by LaPiere (1934) and its replication by Kutner, Wilkins, and Yarrow (1952), researchers have continued to find that attitude as currently measured is a poor predictor of behavior. Since the ultimate value of persuasive communication effort meant to affect a person's attitude in any way is the extent to which the modified attitude can lead to some overt action, it is no wonder that communication researchers feel disappointed over the weak verbal attitude-overt behavior correspondence. Even though most communication researchers are agreed that attitude is still an important concept deserving of continued theoretical and research attention, some have begun to doubt that the concept is important in the prediction of behavior, in view of the many reviews of the research literature documenting the low relationship (McGuire, 1969; Kiesler, Collins, and Miller, 1969; Wicker, 1969; Seibold, 1975).

An important factor which has been identified as being responsible for this low relationship is some researchers' practice of using attitude measured at one level of generality or specificity to try to predict to overt behavior assessed at an entirely different level (Liska, 1974; Cialdini, Petty, and Cacioppo, 1981). Apart from this particular problem, others, which are equally important, include inadequate conceptualization of attitude and inadequate measurement of attitude components.

It has been argued that the researcher's conception of the nature of attitude structure, the kinds of independent variables used in the study of attitude change, and the nature of the data used as measures of the variables will determine the

degree of correspondence to be observed between verbal attitude and overt behavior. For example, Katz and Stotland (1959), Seibold (1975), and Zimbardo, Ebbesen, and Maslach (1977) have contended that a tri-component conception of attitude involving variables representing multiple dimensions of the individual's environment would lead to improvement in the attitude-overt behavior relationship. The rationale is that a more limited, unidimensional view of attitude stands the risk of distorting the individual's attitude, since any single response to a stimulus in the environment is usually multiply determined.

RESEARCH MODEL

The purpose of this study is to test a model derived from Deutsch's proposition on persuasive communication, with a view to contributing toward addressing some of the issues raised above. A multiple-variable approach will be used in the study of attitude change, and an improved measure of the cognitive component of attitude will be attempted, the premise being that these strategies would contribute to improvement in the verbal attitude-overt behavior relationship.

Deutsch (1973) states that for communication to be effective in a conflict situation, it must convey to the information receiver the basic elements of specificity of the source's recommendations, costs which would result from compliance with the recommendations, values and benefits that would accrue to the receiver for complying with the recommendations, harmful consequences that would result from non-compliance, and expressions of the source's power to induce compliance. Deutsch's proposal has a three-fold appeal for its use in the study of attitude change. First, the proposition takes into account the importance of multiple predictor variables in the study of social influence. Second, it balances the motivational factor of reward with that of cost, and third, the proposition is solidly grounded in communication.

However, in deriving the model for this study, I have neither used Deutsch's terminology in its entirety nor followed strictly his five-variable list. In the

place of his specificity of the source's recommendations, I have proposed (1) "information relevance," and for his costs and harmful consequences, I have proposed simply (2) "cost of compliance," since "costs" and "harmful consequences" seem to mean one and the same thing as the term "cost" has usually been conceived of in the social science literature (Einhorn and Hogarth, 1981; Atkinson, 1982). For Deutsch's values and benefits, I have substituted (3) "perceived value of compliance," and for his expressions of the source's power to induce compliance, I have proposed (4) "credibility of the source," since in most communication situations, the source rarely wields that kind of power to induce compliance suggested by Deutsch, but rather has to settle for persuasion through communication of the source's credibility. "Cost" and "perceived value" are combined into a composite variable which I have called "consequence of decision to comply," with the two having a relationship in this composite variable similar to that propsed by Schramm (1973) in his fraction of selection postulate.

The general proposition here is that in a persuasive communication situation, the individual audience member takes these four factors into account in deciding to comply with or not comply with recommendations presented in a message by the communicator. He or she must perceive these four attributes of relevance, cost, value, and credibility as meeting his/her own criteria for compliance. Such criteria are likely to be based on the perceived substantive or potential gratifications of the individual's needs by the source and message cues communicated. Thus, a source perceived as having high credibility, as communicating information that is highly relevant to a subject-matter of interest to the audience, and as communicating a low or moderate cost to be paid for agreement with the viewpoint expressed in the message, should elicit more attitude change than would a source communicating the opposites of these attributes.

If a person says that the message which a source has communicated is irrelevant, and so, unworthy of consideration and possible acceptance, that person is also likely to rate the credibility of the source and the perceived value of the message low, while

perhaps rating the perceived cost attached to the message relatively high. In other words, the person will not be persuaded to change his/her attitude toward the subject-matter of the communication.

Attitude is conceptualized here as a predispositional construct having the three components of cognition, affect, and behavioral motivation, the most common conception of attitude and the one which several researchers have shown to be useful not only in understanding the complexity of attitude but also in improving the predictability of the construct and of its relationship to overt behavior (Triandis, 1971; Ostrom, 1969; Bostrom, 1970; Kothandapani, 1971; Seibold, 1975; Jackman, 1976). Information relevance in the model proposed represents the cognitive component (belief or knowledge about the attitude object), source credibility in the model represents the affective or feeling component, and consequence of decision to comply (perceived value/perceived cost) corresponds to the motivational or conative component.

I define attitude then as a dynamic system of a person's cognitive, affective, and motivational orientations. This definition accords with the view that attitude is an underlying construct in the organism which, even though regarded as an enduring orientation, is subject to changes as it mediates the person's responses to stimuli encountered in the environment.

In order to develop and express affect for an attitude object, the individual must have some cognition of the object, and previous research (Lupfer, 1978; Reibstein, Lovelock, and Dobson, 1980) has demonstrated that cognition directly influences affective evaluation of the attitude object.[1] As Triandis (1971) has remarked: "A person who does not have the concept of car also would not have an attitude toward cars" (p. 3). Also, in order to behave in some way toward the attitude object, one must have not only knowledge of and affect for the attitude object but also some motivational orientation toward the object, except perhaps where the behavior is carried out under duress or in a sheer accident. Thus, a person's attitude toward an object at any point in time is a function of the combined influence of these three components,

and a change in the attitude is represented by changes in the three components, and not just by a change in only one component without changes in the other two. Even Martin Fishbein, who is perhaps the strongest advocate of affect as the single component of attitude, acknowledges that belief and behavioral intention are related to such "attitude" and hence to overt behavior (Fishbein, 1967; Fishbein and Ajzen, 1975). Thus, the tri-component view of attitude is consistent with the conception of the individual as an active processor of information who combines available information with personal feelings and motivational orientations to structure his/her attitude.

Improving Measurement of Cognition

A typical measure of attitude change following a persuasive communication is usually the indexing of some agreement with a number of statements or check marks on certain semantic differential response continua signifying a person's feelings about an attitude object. While these measures are useful, they do not seem to be tapping the full strength of the attitude construct. It has been shown that agreement with a source's statement does not necessarily mean that his or her recommendations have been accepted (Fishbein and Ajzen, 1972; 1975), and McGuire (1973) has argued that since variables related to verbal agreement ("yielding") are sometimes negatively related to other steps in the persuasion process--such as attention, comprehension, and retention--it is an oversimplification to equate verbal agreement with persuasion. This suggests that apart from an expressed agreement with a source's statement, another measure indicating a firmer response by the individual is needed to ensure that the message has really resulted in persuasion.

Fishbein and Ajzen (1975) have suggested that a separate measure of message acceptance would serve this purpose, and state that "acceptance" is equivalent to "belief strength." In other words, a separate measure of acceptance would represent a weight for the usual "agreement" score on the cognitive component. In this respect, the role of acceptance would be equivalent to that of "response certainty," which has

been shown in previous research to contribute to the refinement of the measure of attitude and to the improvement of the verbal attitude-overt behavior relationship (Sample and Warland, 1973). In the process of testing the model presented above, "acceptance" will be measured and used as suggested here in an attempt to improve the predictability of attitude change and of the verbal attitude-overt behavior relationship. As Fishbein and Ajzen (1972, 1975) have pointed out, failure by many attitude researchers to measure acceptance over and above the traditional measures of agreement ("yielding") constitutes an omission of important information.

RESEARCH EVIDENCE

Message attributes have consistently been demonstrated to be among the most important in the process of persuasion (Hovland, Janis, and Kelley, 1953; Berelson and Steiner, 1964; Weiss, 1969), but communication researchers have paid little attention to information relevance as a message attribute deserving of investigation. The relevance of a communicator's argument, i.e., the extent to which the argument directly deals with the issue in hand and consistently and thoroughly focuses on that issue (Salancik and Conway, 1975; Bodaken, 1976; Borgida and Campbell, 1982) rather than rambles about, constitutes one of the important hallmarks of message construction, whether written or oral, and Edelstein (1973) has argued that the audience member takes into account the "relevance of knowledge" communicated to him or her in the process of making decisions on the acceptance or rejection of solutions recommended in the communication.

La Gaipa and Werner (1971) reported a significant interaction between attitude similarity and "topic relevancy" in inducing liking for and friendship with a stranger. Ss whose initial attitudes were similar to the stranger's and who were exposed to a high-friendship relevant message expressed significantly more liking for and friendship with the stranger than did those with dissimilar attitudes who were exposed to low-relevance communication. Likewise, Salancik and Conway (1975) reported

that information salience and information relevance interacted to predict change in attitude toward religious subjects. Ss in the high-salience/high relevance condition changed their attitude significantly more than did Ss in the low-salience/low relevance condition.

In communication persuasion research, credibility of the source of the message has been widely used to index the affective component of attitude, and previous research indicates that credibility combines either additively or multiplicatively with the other components to improve the prediction of attitude change and subsequently the related overt behavior. Siegel, Miller, and Wotring (1969) reported no main effects for either source credibility or perceived difference between most and least preferred sources, but found a significant interaction between the two independent variables in the prediction of attitude change toward "U.S. withdrawal from the United Nations." Ss exposed to high credibility/high difference condition changed their attitudes significantly more than did those exposed to either high credibility/low difference or low credibility/low difference conditions. In a study of attitude toward former American presidents, McKillip and Edwards (1975) found a significant interaction between high source credibility and message content.

Also, credibility has been found to interact with message attributes in various other ways. For instance, Koeske and Crano (1968) showed how a highly credible source--General Westmoreland--quickly lost his influence because he made as assertion perceived by his audience to be inconsistent with his true position. On the other hand, when Stokely Carmichael--a supposedly low credible source--spoke on the issue of U.S. involvement in Vietnam, but with relatively more candor, he was rated significantly more persuasive than General Westmoreland. In other words, a high message attribute paired with a low source credibility would result in more attitude change than would a low message attribute paired with a high source credibility. Roberts and Leifer (1975) found source credibility increasing with purported objectivity of the source, decreasing as the communication issues became more controversial, and varying over time

as a result of information communicated by the source during the interval.

A substantial body of the research literature on information seeking indicates that information is sought when the perceived cost is low while the value attached to the information is perceived to be high. In a review of the information seeking literature, Atkin (1973) concludes that information is likely to be sought where there are high probabilities of "information availability," "instrumental utilities," and "low seeking expenditures." Wright (1974) and Fett (1975) have reported similar results. In their study of the influence of information utility and attitudinal supportiveness of information on message selection, Hillis and Crano (1973) found support for their hypothesis that utility and supportiveness would additively predict message preference. These empirical studies thus indicate that relevance, credibility, and consequence (value/cost) combine in various ways to mediate the individual's responses to communication activities, including attitudinal responses.

Even though attitude-behavior relationships have been shown to be notoriously low, the literature suggests that the relationship could be improved if attitude and behavior are measured at the same level of generality or specificity (Weigel, Vernon, and Tognacci, 1974; Liska, 1974; Fazio and Zanna, 1981; Cialdini, Petty, and Cacioppo, 1981; Snyder and Kendzierski, 1982), and if other critical variables are combined with attitude to predict to overt behavior (Wicker, 1971; McPhee, 1975; Acock and Scott, 1980). However, little attention has been paid to the role which attitude intensity might play in the prediction of behavior. The results reported by Sample and Warland (1973) suggest that attitude intensity would play an important role in the prediction process. The researchers used "response certainty" to partition Ss in their attitude change study, and found that attitude-behavior correspondence improved significantly more for high certainty respondents than was the case for low certainty respondents.

A person who agrees with the views expressed in a message and also accepts the recommendations contained in the message is more likely to engage in the actions

advocated in the recommendations than would the individual who expresses only agreement with but not acceptance of the recommendations. This difference in behavioral responses would hold even if the second person accepts the message recommendations but the level of his/her acceptance is lower than that of the first person. The reason is that a person who weakly accepts a recommendation would be more likely to retreat from the process of implementation if he or she encounters obstacles on the way than would a person the strength of whose belief in the recommendation is strong.

Just as the strength of a response to a message purely in terms of the message's perceived attribute would make a difference in the extent to which a person implements or fails to implement recommendations contained in the message, the strength of expressed affect for the source of the message would conceivably make a difference also in whether or not the recommendation in the message would be carried out. For example, if the strength of a person's evaluation of the credibility of a source is high, the person would be more likely to take actions consistent with the source's recommendations than would an individual who does not perceive the source as credible or who evaluates the source's credibility very low. Likewise, a person who perceives a high level of positive consequence in complying with the source's recommendations would have a higher probability of behaving in ways consistent with the recommendations than would the individual who perceives a lower level of positive consequence or a higher level of negative consequence for complying.

These conjectures imply that the intensity of an attitude, corresponding to the intensities or strengths of its affective, cognitive, and motivational components, would be of crucial import in determining the extent to which the attitude would or would not lead to overt behavior. As available conceptual and empirical evidence appears to indicate, the attitude components mutually influence one another in various ways to structure the attitude construct, and this mutual influence should contribute to the strengthening of the attitude as a mediator of related overt behavior. If a change in any one component holds definite implications for the whole attitude structure, it

follows that experimental manipulations of the three components in a persuasive communication situation should result in attitude change.

HYPOTHESES

The following hypotheses were formulated to test the propositions presented above. The first hypothesis was meant to test the tenability of the model derived from Deutsch's proposition on the role of communication in persuasion:

1. Information relevance, source credibility, and the perceived decisional consequence will influence attitude change individually and collectively. If both the separate and collective variance contributions of these three independent variables are found to be statistically significant, these would suggest that each of the three constitutes an independent component of attitude.[2]

2. The influences of information relevance, source credibility, and decisional consequence on attitude change will vary in terms of the varying levels of the three predictor variables. This hypothesis is an interaction hypothesis, the formulation of which is guided by the conceptualization of the relationships among the variables in the model explicated above and by the empirical research literature reviewed. High information relevance is likely to interact with high source credibility, since agreement with and acceptance of a message adjudged to be highly relevant may be based not only on the perceived quality of the message but also on the perceived expertise and trustworthiness of the message source. Such high relevance rating may likewise influence and be influenced by the high reward/low cost equation (high consequence) perceived by the individual to be attached to compliance with the position advocated in the message. As Zimbardo, Ebbesen, and Maslach (1977) have stated, it is sometimes more advantageous in the interest of theory building and more effective research to anticipate and hypothesize for interactions among the attitude components than to assume that there are no such interactions.

3. The weighting of the cognitive component of attitude with the acceptance measure will improve the verbal attitude-overt behavior relationship. This hypothesis is based on the assumption that a strengthened cognitive component would have implications for the entire attitude structure and that the strengthened attitude would have a higher probability of instructing overt behavior than would an unstrengthened attitude.

4. High intensity attitude will predict overt behavior better than would an uncategorized attitude. The justification for this hypothesis is similar to that for Hypothesis 3. The assumption here is that the usual practice of lumping all of Ss' scores--high intensity scores, moderate intensity scores, and low intensity scores--into a single attitude index allows the law of regression-toward-the-mean to operate in the prediction of overt behavior with such attitude index, whereas the use of a high intensity attitude category in the prediction would prevent such regression of effect from occurring.

METHODOLOGY

Design

A 3 x 2 x 2 factorial design was used--three levels of decisional consequence (high, moderate, low), two levels of information relevance (high, low), and two levels of source credibility (high, low)--with the posttest-only control group design approach applied (Campbell and Stanley, 1966), the aim being to avoid sensitization and other problems often arising from the use of the pretest. The three consequence levels were composed of the following combinations of the perceived value and perceived cost measures: (1) high consequence (high value/low cost), (2) moderate consequence (moderate value/moderate cost), and (3) low consequence (low value/high cost). This combination of value and cost into a composite consequence predictor is based on the assumption that both value and cost are located at opposite points along a single continuum of the individual's decision making process (Deutsch, 1973; Schramm, 1973).

Attitude Object

These three independent variables were used to study a change in attitude toward national health insurance, with the aim of using the induced attitude to predict to overt behavior toward the same attitude object. The issue of publicly financed health programs for Americans has been on the public's agenda since 1936, shortly after commencement of the Social Security system. However, escalating health costs have necessitated heated debates over the pros and cons of a national health insurance, with many bills now pending in Congress on the subject. Erskine (1975) reviewed data gathered on the issue of health insurance between 1936 and 1974 by nine national polling organizations and found that support for public health insurance for the entire population averaged 52 percent, while 30 percent of those polled were against such insurance. Approval for government involvement in financing such a program fluctuated between 40 and 60 percent, with opposition increasing sharply only when increased taxes and "compulsory health insurance" were mentioned in some of the research questions used.

These results indicate that while there is an across-the-board support for national health insurance, the support is moderate and relatively fluid. Data reported recently by Steiber and Ferber (1981) on the same subject are consistent with this conclusion. Thus, it was in view of this status of national health insurance in the public's consciousness--middle level salience and fluidity of support--that the issue was chosen as the attitude object for this study, for it was expected that manipulation of changes in attitude toward the issue would be readily accomplished.

Subjects

The Ss were 353 undergraduate students in six intact classes at Kent State University. Three of the classes were journalism classes, one was a home economics class, one was a geology class, and the remaining one was a business administration class. The students represented a wide range of disciplines across the campus. One hundred and fifty-five of them were juniors (44%), 85 were freshmen (24%), 63 were

sophomores (18%), while 50 were seniors (14%). An average of about 26 Ss served in each of the 12 experimental cells while nearly double that number (46) constituted the control group, with these cell n's determined by the random procedure described in the Experimental Procedure sub-section below.

Measuring Instruments and Variables

Attitude Questionnaire and Variable Measures: Forty Likert-type questionnaire items were used to measure the variables in the study. Following an item analysis of a pool of 104 items constructed in accordance with the directions provided by Edwards (1957) and Summers (1970) and pretested on a sample of 32 taken from the same population that furnished the sample used in the experiment, 10 items each were selected for use in measuring source credibility, perceived value, and perceived cost. Five items each were selected for use in measuring relevance and acceptance. The chosen items were those which had the highest correlations with the total and with other items in the same sub-scales. Each item contained seven response categories, scored from 1 to 7. The five items used to measure acceptance constituted a summary of the main recommendations contained in the experimental message--"the federal government finances national health insurance with a small percentage of the present Social Security fund," "employees contribute to the financing of national health insurance," "national health insurance is supervised by the federal government," etc. The response options ranged from "strongly acceptable" (score of 7) to "strongly unacceptable" (score of 1).

Reliability measures were computed for the scales, and the final Cronbach's coefficient alphas obtained were as follows: total measure, .88; relevance, .71; acceptance, .68; credibility, .84; value, .90; and cost, .73. The sum of Ss' response scores on the items in each sub-scale constituted the index of each variable, with the exception that the acceptance measure was used to weight the relevance index while the cost measure was used to divide the value measure in order to obtain the index of consequence. The weighting of the relevance index with the acceptance measure was

consistent with the conceptualization of the relationship between the two variables presented earlier in this paper, and with the procedure used by previous attitude researchers (Rosen and Komorita, 1971; Kaplan, 1972) to combine measures of other variables similarly related. The measures of relevance, credibility, and consequence were summed and their mean taken to constitute the index of attitude, following Title and Hill (1967), while dummy-coded vectors were used to represent the independent variables (Kerlinger and Pedhazur, 1973; Cook and Campbell, 1979). Finally, the mean of summed upper one-third of scores on the predictor variables was used as the index of high attitude intensity.

Overt Behavior Measure: This was a two-page "petition" to Congress to speed up passage of a bi-partisan legislation to establish a national health insurance program. It was stressed in the document that the signature drive "on campuses across the country" was being sponsored by a group of concerned educators and students. The seven-response-category scale was adapted from the one used by DeFleur and Westie (1958) in

---

FIGURE 1 ABOUT HERE

---

their classic study of the relationship between verbal attitude and overt behavior. As a justification for the seven different signature options in the instrument (see Figure 1), it was explained that the millions of signatures to be obtained from all over the country would be submitted to Congress and also used for demonstration purposes in classroom discussions to elicit more support for national health insurance. Also, the signatures of those signers electing the option would be published in the press, and the use of these different strategies to disseminate the signatures was necessitated by the sponsors' determination to conduct the campaign for signatures by all available means, it was explained. The seven statements of the signature options were constructed in an order of increasing implications for the signer, with a value of 1 assigned to the first option which posed the least implication and the value of

7 assigned to the seventh and final option which posed the greatest implications.

The substantive behavioral aspect of the instrument was the affixing of the individual's signature on the document, that is, the usual public behavioral act of signing a petition concretely signifying one's support for or opposition to a cause. In their reference to the importance of this action, DeFleur and Westie (1958) observe that "in American society, the affixing of one's signature to a document is a particularly significant act." Other behavioral acts similar to petition-signing include voting for a candidate, pledging monetary and other donations, and joining a group.

Manipulations of Variables

Information relevance was manipulated in a two-page excerpt of an "address" delivered on national health insurance. For high relevance, the message argued the case for national health insurance as strongly as possible, citing a large amount of data and examples, and using quotations from expert authorities to buttress the argument, with the thrust of the argument not deviating even a bit from the subject-matter of national health insurance. The general tone of the message was aimed at clearly and precisely informing Ss on the issues involved in national health insurance and also at motivating them to perceive the importance of the program, including that of several recommendations on how the program could be financed and implemented. For low information relevance, the argument for national health insurance was considerably weak, with no supporting data, examples, and quotations, and the thrust of the argument deviated very substantially from the issue of national health insurance to many unrelated matters, giving the impression that the message source did not know what he/she was talking about.

Source credibility was manipulated in the introduction of the persons who were said to have delivered the addresses from which the messages were excerpted. For high source credibility, the person was introduced as a "professor of medical economics" at a large northeastern university, who had been a long-term consultant to the federal

and state governments on health matters, and who was well known internationally for his many publications on various aspects of public health administration and financing. The address purportedly was delivered at a professional conference, and the excerpt the Ss were asked to read was from a longer version published in a major medical journal. For low credibility, the same person was introduced as a freshman member of Speech 101 class at a large university in the south, who had withdrawn from school. The speech was said to have been delivered in class as a regular course requirement, and the excerpt was from a longer version.

The manipulation of consequence was contained in introductory statements to questionnaire items measuring perceived value and perceived cost. For high consequence, Ss were asked to think of all the benefits which could be derived from national health insurance for the individual personally, for other people, and for the nation as a whole (value). They were asked to bear in mind that relatively little problem would be encountered in financing and implementing the program (cost). To strengthen this induction further, the statement said that "information from campuses across the country indicates that students are making judgments on national health insurance." The statement cited the great deal of responsibility exhibited by students in opposing American military involvement in Vietnam and suggested that Ss could demonstrate a similar degree of responsibility in support of national health insurance. For moderate consequence, the induction was the same, with the exception that the statement did not mention "information from campuses across the country...," neither did it include the Vietnam analogy. For low consequence, Ss were simply asked to "please read each of the items in this part of the questionnaire carefully before responding to the items, regardless of what you think or feel about the high cost (cost) or low usefulness (value) of national health insurance."

Experimental Procedure

All the attitude measuring instruments, including manipulations of the independent variables, were arranged in accordance with the 12 experimental and one control

conditions, and presented in booklet form. The booklets were randomly arranged and distributed in each class in such a way that no two persons sitting side-by-side belonged in the same experimental condition, and that the cell n for the control group was nearly twice the cell n for each of the experimental groups.[3] Control Ss filled out the same questionnaire completed by those in the experimental conditions, but received none of the manipulations; and in place of the treatment messages, they read a story on communication with dolphins. This story was meant to keep them busy while Ss in the treatment conditions were reading the experimental messages. The instruments were administered in the six classes in exactly the same manner by three experimenters (two male, one female). After having been introduced by the class instructor, each experimenter told the students that the purpose of the study was to find out how people evaluated information on issues that were of general interest as well as of personal interest. He or she then distributed the booklets in the manner described above, and asked Ss to read the messages contained in the booklets (the induction messages and instructions) before beginning to fill out the questionnaire items. The booklet contained a space where each S provided the last five digits of his/her ID number.

Two weeks later, two entirely different experimenters (both of them male) administered the behavioral instrument to the same students in the six classes. In each class, the experimenter introduced himself as a representative of "concerned educators and students" at Kent State and in other universities around the country trying to collect millions of signatures on a "petition" asking Congress to speed-up passage of legislation to establish a national health insurance program for the country. He appealed to the students to sign the petition, but emphasized that signing was purely voluntary and without any obligation, and distributed the instrument to those who volunteered to sign. Out of the total of 353 students who completed the attitude instruments two weeks earlier, 188 volunteered and signed the "petition," while 165 did not sign either because they did not want to be involved in the petition-signing behavior or possibly because they were absent from class on this particular day. Also, 71 other students who did not participate in the experiment from the beginning but who

happened to be present in the experimental classes on the day the behavioral measure was obtained volunteered and signed the petition. However, the behavioral data from those 71 were not included in the analysis for this study.

Shortly after the experimenter had left each class, the investigator himself went in and de-briefed the students on the real purpose of the study, which was to find out whether a person would follow-up his or her expressed attitude with action that is closely related to the attitude. But before telling them this, he asked the students if they were able to make any connection between the attitude questionnaire they filled out two weeks earlier and the "petition" they had signed. In every instance, the students said that they did not make any such connection. Most said they believed the experimenters on the stated purpose of the attitude study, but some said they were "skeptical" or "not sure" that what the experimenters told them were the actual purpose of the study.

RESULTS

Manipulation Checks

The first statistical test made was a comparison of the grand mean of the 12 experimental groups (23.43) with the mean of the control group (21.86) to see if there was any difference in their predictive influences on the attitude criterion. This test, in other words, was meant to see if there was any attitude change, and thus represented a check on the effectiveness of the manipulations carried out on the independent variables. Both means accounted for 39 percent of the variance in the attitude criterion ($F = 109.82$; $df = 2,350$; $p < .001$), with the grand mean of the experimental groups accounting for 37 percent ($F = 209.91$; $df = 1,351$; $p < .001$) and the control group mean explaining the remaining 2 percent ($F = 10.41$; $df = 1,351$, $p < .01$). The mean of 21.86 and the variance contribution of 2 percent by the control group thus represented the Ss' initial attitude, while the difference of 1.57 between the two means and the variance contribution of 37 percent by the experimental groups

represented a change in attitude. With these results, and the random procedure used in assigning the experimental and control conditions to Ss, it can be concluded that a change in attitude occurred as a result of the experimental treatments (Campbell and Stanley, 1966; Fishbein and Ajzen, 1975; Westley, 1981; Petty and Brock, 1981). Also, the cell mean (24.92) of the high consequence-by-high relevance-by-high credibility experimental condition is greater than the cell mean (21.71) of the low consequence-by-low relevance-by-low credibility condition ($t = 1.87$, $df = 351$, $p < .05$, one-tailed test), thus confirming this conclusion about the effects of experimental treatments.

Statistical Tests of Hypotheses

Hypothesis 1 states that relevance, credibility, and consequence would influence attitude change individually and collectively. The percentage of variance explained in the attitude criterion by the three predictor variables was 27 percent ($F = 32.69$; $df = 4,348$; $p < .001$). Of this total variance, relevance contributed 12 ($F = 59.08$; $df = 1,351$; $p < .001$), credibility contributed 5 percent ($F = 25.21$; $df = 1,351$, $p < .001$), and consequence explained the remaining 10 percent of this total variance ($F = 23.01$; $df = 2,350$; $p < .001$). Hypothesis 1 is lent support--the three predictor variables influenced attitude change collectively and individually, and represent independent components of attitude. The relative strengths of the variables in inducing attitude

---

TABLES 1 AND 2 ABOUT HERE

---

change are reflected in the magnitudes of their beta weights presented in Table 1. The sizes of the weights are consistent with the magnitudes of variance contributions made by the three variables, indicating that the most important predictor of attitude change was relevance, followed by consequence, with credibility contributing the least impact. These relative influences also are confirmed by the zero order correlations of the three predictors with the attitude criterion (Table 2), indicating that the correlation of relevance with the criterion is the highest while that of credibility with the criterion

is the lowest.

Hypothesis 2 states interaction relationships between and among the independent variables in their influences on attitude change. This interaction hypothesis assumes that the influences of the predictors on the attitude criterion in terms of their varying levels would be more important and more interesting than their additive effect in delineating the character of the attitude structure. With this assumption, the interaction vectors were entered first in a hierarchical regression program before the main effects vectors (Susmilch, Elliot, and Schwartz, 1975; Monge, 1980), and four first-order and two second-order interactions were found. In other words, four of the five possible first-order interactions and the two possible second-order interactions were statistically significant. High consequence interacted with high relevance ($F = 9.01$; $df = 2,350$; $p < .001$), moderate consequence interacted with high relevance ($F = 13.07$; $df = 2,350$; $p < .001$), moderate consequence also interacted with high source credibility ($F = 3.41$; $df = 2,350$; $p < .05$), and high relevance interacted with high credibility ($F = 5.98$; $df = 1,351$; $p < .05$). The interaction among high consequence, high relevance, and high credibility ($F = 5.05$; $df = 2,350$; $p < .01$) and among moderate consequence, high relevance, and high credibility ($F = 8.23$; $df = 2,350$; $p < .001$) were relatively high.

An inspection of the cell means in Table 4 indicates that the following treatment conditions were mainly responsible for the interaction effects observed: high consequence-by-high relevance-by-high credibility condition (Cell 1), high consequence-by-high relevance-by-low credibility condition (Cell 3), moderate consequence-by-high

---

TABLES 3 AND 4 ABOUT HERE

---

relevance-by-high credibility condition (Cell 5), and low consequence-by-high relevance-by-high credibility condition (Cell 9). However, the expected interaction between high consequence and high source credibility did not materiaze ($F = 1.65$; $df = 2,350$; $p > .05$).

Thus, Hypothesis 2 receives partial support.

The aim of Hypothesis 3 was to see if the weighting of Ss' scores on relevance by their acceptance scores would make any significant difference in the magnitude of the verbal attitude-overt behavior relationship to be observed, as compared to the situation where relevance scores were not weighted with the acceptance scores. The percentage of variance accounted for in overt behavior by attitude when the relevance index was not weighted with the acceptance measure was 7 percent ($F = 26.77$; $df = 1,351$; $p < .001$), but when the index was weighted with the acceptance measure, the variance increased to 10 percent ($F = 38.88$; $df = 1,351$; $p < .001$)--a difference of 3 percent, which was statistically significant ($F = 11.64$; $df = 1,351$; $p < .001$). Thus, the weighting of the cognitive component (relevance) with the acceptance measure did improve the predictability of overt behavior with verbal attitude as hypothesized.

Hypothesis 4 addressed the issue of the role which attitude intensity could play in the attitude-overt behavior relationship. It was hypothesized that high intensity attitude would predict to overt behavior better than would uncategorized attitude, i.e., that Ss having highly intense attitude would be more likely than all the Ss combined to match their attitude with related overt behavior. Whereas the percentage of variance in overt behavior accounted for by uncategorized attitude was 10 percent, the variance explained in the same overt behavior by high intensity attitude was a mere 2 percent. Instead, the variance accounted for in overt behavior by moderate-to-low intensity attitude was 9 percent--much greater than the variance contribution made by high intensity attitude, even though still less than the 10 percent explained by uncategorized attitude. Clearly, Hypothesis 4 was not supported by the results observed.

Also, even though three of the four hypotheses posed received relatively strong statistical support, the magnitudes of variances explained in overt behavior by attitude were in all instances very low--as low as has usually been the norm in most previous studies concerned with the verbal attitude-overt behavior relationship. Furthermore, the fact that not all the 353 Ss who participated in the attitude change phase of the

experiment signed the "petition" in the overt behavior phase but only 188 of them (53 percent correspondence),[4] is evidence that there was no complete correspondence between verbal attitude and overt behavior. Again, this result is not markedly different from what previous researchers have found, for the bulk of the percentages of correspondence reported in the experimental research literature in this area in recent years have ranged from as low as 19 percent (Miller, 1976) to as moderate as 55 percent (Borgida and Campbell, 1982).

With regard to the low percentages of variance in overt behavior accounted for by the various measures of attitude, the reason seems to be that the predictive efficacy of attitude was depressed by the combination of the attitude scores of the 188 Ss who completed both the attitude questionnaire and the behavioral instrument with the attitude scores of the 165 who did not sign the behavioral instrument. This explanation is suggested by an additional analysis of the data. When the attitude index was split into "matched" and "unmatched" vectors and only the "matched" vector (containing attitude scores of only those Ss who signed the "petition") was used to predict to overt behavior, the percentage of variance explained by this attitude vector was 66 percent ($F = 671.27$; $df = 1,351$; $p < .001$). Also, while the correlation of this matched attitude vector with the behavioral criterion was high and positive in sign (+.81), the

---

TABLE 5 ABOUT HERE

---

correlation of the "unmatched" attitude vector (containing attitude scores of those 165 Ss who did not sign the behavioral "petition") with the behavior was only moderate and negative in sign (-.55). Finally, as Table 5 indicates, the 188 who completed the attitude change measures and signed the petition (those with scores in the "matched" vector) scored significantly higher on the attitude measure (mean = 24.75) than did the 165 who did not sign (mean = 22.82). These results suggest that the attitude measures used to test the hypotheses in this study were depressed by the combination into single attitude indices of the scores of those Ss who signed the behavioral

petition with the scores of those who did not sign the instrument. Discussion of the implications of this methodological procedure, a procedure commonly used by attitude researchers, is taken up in the discussion section below.

SUMMARY AND DISCUSSION

The research model tested in this study was adapted from Deutsch's information-based proposition stressing the importance of a multiple-variable conception of the persuasion process. Thus, a tri-component view of attitude was used in the study as a logical summary of this multiple-variable conception, the assumption being that any communication event meant to influence a person's attitude invariably evokes several cues at once which stimulate not only the structure of the individual's feelings but also the whole configuration of his/her cognitive and motivational dispositions. It is assumed that while these feeling, cognitive, and motivational factors are closely related and together define the overall structure of attitude, they constitute independent components of this attitude structure.

Thus, the main objective of the study was to see the extent to which manipulations of information relevance, source credibility, and decisional consequence would confirm the proposition that the three variables were three distinct components of attitude that would be capable of inducing changes in the attitude and of facilitating attitude-overt behavior correspondence. With the proposed national health insurance as the attitude object and the signing of a "petition" to Congress to enact legislation for the establishment of this health insurance program as the related overt behavioral act, two hypotheses were tested on attitude change and two others on verbal attitude-overt behavior relationship.

The results of the study provide limited support for the two sets of hypotheses. There was strong support for the hypothesis that information relevance, source credibility, and decisional consequence would collectively and individually influence attitude change. Relevance was the most potent predictor of this change, followed by

consequence and credibility in that order (Tables 1 and 2). These results call into question the argument by some attitude researchers that affect is the only component of attitude since it is the most decisive predictor of attitude change. On the contrary, the results of this study show clearly that affect is the least effective predictor of attitude change, at least to the extent that source credibility, which has most often been used as a measure of affect, truly represents the affective component of attitude. The results here are consistent with the findings by previous researchers: first, that the attitude components are independent (Lupfer, 1978; Bagozzi and Burnkrant, 1979; Reibstein, Lovelock, and Dobson, 1980), contrary to the argument by McGuire (1969) and Fishbein and Ajzen (1975) that the components are not independent; and second, that the cognitive and the motivational components are more important than the affective component not only in influencing attitude change but also in facilitating attitude-overt behavior correspondence (Audi, 1972; Jackman, 1976). The explanation for these is the assumption that cognition provides the basis for the affect which the individual expresses, and that motivation represents the dispositional (readiness-to-act) character of the individual's attitude.

An attempt to improve the measure of the cognitive component of attitude was the second important objective of this study, and the weighting of the relevance score with the acceptance score surely strengthened this predictor variable, thus demonstrating the utility of measuring acceptance substantively in addition to the usual "agreement" measure of cognition. The measurement of consequence as the quotient of the value/cost measures had a similar effect on this motivational component of attitude. Taken together, the results argue the case for more careful attention to measurement issues in attitude research, much more than has so far been the case in this research area.

Perhaps, a few words on the experimental induction of relevance used in the study seems to be in order. The message used to manipulate high relevance was constructed in a manner not different from an ordinary, carefully structured speech, commentary, or editorial on an issue of public interest, with pertinent evidence, analysis, and constructive suggestions on the ways and means of implementing any program related to

the issue. The success of this manipulation in contributing toward the establishment of the independent identity and predictive role of cognition in the enactment of attitude change suggests that an ordinary persuasive message with attention to its relevance as defined here has a high probability of achieving its intended objective.

The interactions observed are consistent with findings in previous research which show that the three components of attitude interact in various ways. The results demonstrate the complexity of the structure of attitude, and go further to suggest that, much as simplicity is to be preferred to complexity in the scientific enterprise, progress in attitude theory and research is likely to be made only when this complexity is more widely acknowledged and appropriate conceptual and methodological strategies are employed to address the problem. In a persuasive communication situation, the individual is likely to comply with recommendations presented in a message only if he/she perceives a high level of relevance in the message, a high level of credibility in the message source, and a high or moderate value/cost consequence of his or her decision to comply.

However, the failure to find interaction between high consequence and high credibility was not expected. Also, the percentage of variance in attitude change contributed by high consequence (4%) is smaller than the variance explained by moderate consequence (6%), thus suggesting that the simultaneous manipulation of high value/low cost (high consequence) was not as successful as expected. This interpretation is borne out by the relative magnitudes of Ss' mean scores on high value and low cost, which were 37.88 and 39.05 respectively. When the value score is divided by the cost score, the quotient is less than 1--it is precisely 0.97. In other words, while Ss acknowledged the value or usefulness of national health insurance, they indicated that the cost of the proposed program would be higher than its value, contrary to the suggestion in the induction statements that the cost would be low relative to the value.

The improvement of the attitude-behavior relationship when the acceptance score was used to weight the relevance measure again speaks to the utility of exploring

ways and means of improving the measurement of attitude. Another factor which must have contributed to the observed results was the measurement of attitude and related overt behavior at the same level of specificity. However, the negative finding for attitude intensity was highly surprising. The depression of the value score by the cost score for high consequence as discussed above must have contributed to the negative finding. At any rate, it might be advisable in a future study to substantively partition Ss in terms of their intensity scores and more directly observe the influence of intensity, rather than define intensity in the way it was done in this study.

Another methodological problem underscored in this study is the depression of attitude measures occasioned by the merging of attitude scores of Ss who matched their verbal attitude with overt behavior with the attitude scores of those who did not. That the prediction of overt behavior increased more than six times when the merging procedure was not used in the attitude measure raises the question of the value of continuing to combine these two sets of attitude scores in the prediction of overt behavior, as is very common in the attitude-behavior research literature.[5] Weigel, Vernon, and Tognacci (1974) have defended the procedure by contending that the attitude scores of those who did not match their attitude with overt behavior represented "the low end of the action continuum" (pp. 726-727). However, the only legitimate justification for including in data analysis the attitude scores of Ss who did not follow through their verbal attitude with related overt behavior is perhaps the need to show the extent to which there is correspondence between attitude and behavior. Other than that, the inclusion only serves to distort the predictive influence of attitude on behavior, as the results of the extended analysis in this study have shown.

Despite some of the no-effect findings noted, the results of the study demonstrate that the tri-component conception of attitude is a useful way of looking at the construct, and that persuasive communication is very important in modifying the structure of attitude. The results also show that there is a genuine relationship between verbal attitude and overt behavior, and that that relationship can be improved through

improvement in measurement procedures. In most studies of attitude-behavior relationship, the behavioral measure usually is obtained immediately after completion of the attitude measure. The behavioral data in the present study were collected two weeks after the attitude measures, and the fact that the influences of attitude on behavior remained relatively so strong after two weeks is a testimony to the strengths of the experimental manipulations and of the attitudinal variables used in the study.

If the share of variance in overt behavior attributable to verbal attitude remains relatively low, this may as much be explainable by the nature of attitude itself as by the conceptual and research procedures that have so far been used to study the problem. It may well be that, as Schuman and Johnson (1976), Fischer and Farina (1978), and Fazio and Zanna (1981) have observed, there is never going to be perfect correspondence between attitude and behavior, for situational, personality, and a host of other factors intervene to frustrate such perfect correspondence. But a good progress is being made toward improving the predictive influence of verbal attitude on overt behavior, including the causal impact (Kahle and Berman, 1979; Kahle, Klingel, and Kulka, 1981) of attitude on behavior. The results of the present study show that methodological attention to the role of communication in attitude change can contribute toward this improvement in verbal attitude-overt behavior relationship. In this respect, new conceptual and methodological approaches in the study of the communication persuasion process hold the promise for much further improvements in the relationship.

NOTES

[1]The results of these studies thus refute Zajonc's (1980) argument that affect is precognitive rather than postcognitive.

[2]The argument for independence holds where there is no evidence of multicollinearity (i.e., high inter-correlations) among the predictor variables.

[3]Allowing the cell n for the control group to be about twice the cell n for each of the experimental groups represents an optimum allocation of Ss (See Winer, 1962; Edwards, 1968).

[4]The fact that 71 students who were absent from class during the attitude change phase of the experiment were present in class during the overt behavior phase and volunteered and signed the petition suggests perhaps that some of the 165 Ss who did not sign the petition possibly might have been absent from class the day the behavioral measure was obtained. All students present in the classes during the attitude change phase—the 353 of them—participated in that phase. The behavioral data from the above 71 students were not included in the analysis for this study.

[5]A notable exception to the methodological procedure was perhaps Ostrom (1969) who excluded from data analysis the attitude scores of 44 of his Ss who completed the attitude measures in his experiment but did not complete the behavioral measure. However, Ostrom has been criticized for doing this (Bagozzi and Burnkrant, 1979).

REFERENCES

Acock, Alan C. and Wilbur J. Scott
1980 A Model for Predicting Behavior: The Effect of Attitude and Social Class on High and Low Visibility Political Participation. Social Psychology Quarterly 43:59-72.

Atkin, Charles
1973 Instrumental Utilities and Information Seeking. In Peter Clarke, ed., New Models for Mass Communication Research. Beverly Hills: Sage Publications. 205-242.

Atkinson, John W.
1982 Old and New Conceptions of How Expected Consequences Influence Actions. In Norman T. Feather, ed., Expectations and Actions: Expectancy-Value Models in Psychology. Hillsdale: Lawrence Erlbaum Associates, Publishers. 17-52.

Audi, Robert
1972 On the Conception and Measurement of Attitudes in Contemporary Anglo-American Psychology. Journal for the Theory of Social Behavior 2:179-203.

Bagozzi, Richard P. and Robert E. Burnkrant
1979 Attitude Organization and the Attitude-Behavior Relationship. Journal of Personality and Social Psychology 37:913-929.

Berelson, Bernard and Gary A. Steiner
1964 Human Behavior: An Inventory of Scientific Findings. New York: Harcourt, Brace & World, Inc.

Bodaken, Edward M.
1976 An Empirical Test of a Role Enactment Model of Persuasion. Human Communication Research 2:330-337.

Borgida, Eugene and Bruce Campbell
1982 Belief Relevance and Attitude-Behavior Consistency: The Moderating Role of Personal Experience. Journal of Personality and Social Psychology 42:239-247.

Bostrom, Robert N.
1970 Affective, Cognitive, and Behavioral Dimensions of Communicative Attitudes. The Journal of Communication 20:359-369.

Campbell, Donald T. and Julian C. Stanley
1966 Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally & Company.

Cialdini, Robert B., Richard E. Petty, and John T. Cacioppo
1981 Attitude and Attitude Change. In Mark R. Rosenzweig and Lyman W. Porter, eds., Annual Review of Psychology, Vol. 32. Palo Alto: Annual Reviews Inc. 357-404.

Cook, Thomas D. and Donald T. Campbell
1979 Quasi-Experimentation: Design & Analysis Issues for Field Settings. Chicago: Rand McNally College Publishing Company.

DeFleur, Melvin L. and Frank R. Westie
1958 Verbal Attitudes and Overt Acts: An Experiment on the Salience of Attitudes. American Sociological Review 23:667-673.

Deutsch, Morton
1973 The Resolution of Conflict: Constructive and Destructive Processes. New Haven: Yale University Press.

Edelstein, Alex S.
1973 Decision-Making and Mass Communication: A Conceptual and Methodological Approach to Public Opinion. In Peter Clarke, ed., New Models for Mass Communication Research. Beverly Hills: Sage Publications. 81-118.

Edwards, Allen L.
1957 Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, Inc.

1968 Experimental Design in Psychological Research. New York: Holt, Rinehart and Winston, Inc.

Einhorn, Hillel J. and Robin M. Hogarth
1981 Behavioral Decision Theory: Processes of Judgment and Choice. In Mark R. Rosenzweig and Lyman W. Porter, eds., Annual Review of Psychology, Vol. 32. Palo Alto: Annual Reviews Inc. 53-88.

Erskine, Hazel
1975 The Polls: Health Insurance. Public Opinion Quarterly 39:128-143.

Fazio, Russell H. and Mark P. Zanna
1981 Direct Experience and Attitude-Behavior Consistency. In Leonard Berkowitz, ed., Advances in Experimental Social Psychology, Vol. 14. New York: Academic Press. 161-202.

Fett, John H.
1975 Situational Factors and Peasants' Search for Market Information. Journalism Quarterly 52:429-435.

Fischer, Edward H. and Amerigo Farina
1978 Attitude Toward Abortion and Attitude-Relevant Overt Behavior. Social Forces 57:585-599.

Fishbein, Martin
1967 A Behavior Theory Approach to the Relations Between Beliefs About an Object and the Attitude Toward the Object. In Martin Fishbein, ed., Readings in Attitude Theory and Measurement. New York: John Wiley & Sons, Inc. 389-400.

Fishbein, Martin and Icek Ajzen
1972 Attitudes and Opinions. In Paul H. Mussen and Mark R. Rosenzweig, eds:, Annual Review of Psychology, Vol. 23. Palo Alto: Annual Reviews Inc. 487-544.

1975 Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research. Reading: Addison-Wesley Publishing Company.

Hills, J.W. and W.D. Crano
1973 Additive Effects of Utility and Attitudinal Supportiveness in the Selection of Information. The Journal of Social Psychology 89:257-269.

Hovland, Carl I., Irving L. Janis, and Harold H. Kelley
1953 Communication and Persuasion. New Haven: Yale University Press.

Jackman, M.R.
1976 The Relation Between Verbal Attitude and Overt Behavior: A Public Opinion Application. Social Forces 54:646-668.

Kahle, Lynn R. and John J. Berman
1979 Attitudes Cause Behaviors: A Cross-Lagged Panel Analysis. Journal of Personality and Social Psychology 37:315-321.

Kahle, Lynn R., David M. Klingel, and Richard A. Kulka
1981 A Longitudinal Study of Adolescents' Attitude-Behavior Consistency. Public Opinion Quarterly 45:402-414.

Kaplan, K.J.
1972 From Attitude Formation to Attitude Change: Acceptance and Impact as Cognitive Mediators. Sociometry 35:448-467.

Katz, Daniel and Ezra Stotland
1959 A Preliminary Statement to a Theory of Attitude Structure and Change. In Sigmund Koch, ed., Psychology: A Study of Science, Vol. 3. New York: McGraw-Hill Book Company, Inc. 423-475.

Kerlinger, Fred N. and Elazar J. Pedhazur
1973 Multiple Regression in Behavioral Research. New York: Holt, Rinehart and Winston, Inc.

Kiesler, Charles A., Barry E. Collins, and Norman Miller
1969 Attitude Change: A Critical Analysis of Theoretical Approaches. New York: John Wiley & Sons, Inc.

Koeske, G. and W. Crano
1968 The Effect of Congruous and Incongruous-Statement Combinations Upon Judged Credibility of a Communication. Journal of Experimental Social Psychology 4:384-399.

Kothandapani, Virupaksha
1971 Validation of Feeling, Belief, and Intention to Act as Three Components of Attitude and Their Contribution to Prediction of Contraceptive Behavior. Journal of Personality and Social Psychology 19:321-333.

Kutner, B., C. Wilkins, and P.R. Yarrow
1952 Verbal Attitudes and Overt Behavior Involving Racial Prejudice. The Journal of Abnormal and Social Psychology 47:649-652.

La Gaipa, J.J and R.E. Werner
1971 Effects of Topic Relevancy and Attitude Similarity on Two Measures of Affiliation. Psychonomic Science 24:67-68.

LaPiere, R.T.
1934 Attitudes Versus Actions. Social Forces 13:230-237.

Liska, Allen E.
1974 Attitude-Behavior Consistency as a Function of Generality Equivalence Between Attitude and Behavior Objects. The Journal of Psychology 86:217-228.

Lupfer, Michael B.
1978 Youths' Attitudes Toward the Presidency: The Relationship Between Cognition and Affect. Social Science Quarterly 59:355-361.

McGuire, William J.
1969 The Nature of Attitude and Attitude Change. In Gardner Lindsey and Elliot Aronson, eds., The Handbook of Social Psychology, Vol. 3. Reading: Addison-Wesley Publishing Company. 136-314.

1973 Persuasion, Resistance, and Attitude Change. In Ithiel de Sola Pool et al., eds., Handbook of Communication. Chicago: Rand McNally College Publishing Company. 216-252.

McKillip, Jack and J.D. Edwards
1975 Source Characteristics and Attitude Change. Personality and Social Psychology Bulletin 1:135-137.

McPhee, R.D.
1975 Derivation and Test of a New Model of Message-Attitude-Behavior Relations. Paper presented at the International Communication Association convention, Chicago, Illinois.

Miller, Richard L.
1976 Mere Exposure, Psychological Reactance, and Attitude Change. Public Opinion Quarterly 40:229-233.

Monge, Peter R.
1980 Multivariate Multiple Regression. In Peter R. Monge and Joseph N. Cappella, eds., Multivariate Techniques in Human Communication Research. New York: Academic Press. 13-56.

Ostrom, Thomas M.
1969 The Relationship Between the Affective, Behavioral, and Cognitive Components of Attitude. Journal of Experimental Social Psychology 5:12-30.

Petty, Richard E. and Timothy C. Brock
1981 Thought Disruption and Persuasion: Assessing the Validity of Attitude Change Experiments. In Richard E. Petty, Thomas M. Ostrom, and Timothy C. Brock, eds., Cognitive Responses in Persuasion. Hillsdale: Lawrence Erlbaum Associates, Publishers. 55-79.

Reibstein, David J., Christopher H. Lovelock, and Ricardo de P. Dobson
1980 The Direction of Causality Between Perceptions, Affect, and Behavior: An Application to Travel Behavior. Journal of Consumer Research 6:370-376.

Roberts, Donald F. and Aimee Dorr Leifer
1975 Actions Speak Louder Than Words--Sometimes. Human Communication Research 1:257-264.

Rosen, B. and S.S. Komorita
1971 Attitudes and Action: The Effects of Behavioral Intent and Perceived Effectiveness of Acts. Journal of Personality 39:189-203.

Salancik, Gerald R. and Mary Conway
1975 Attitude Inferences From Salient and Relevant Cognitive Content About Behavior. Journal of Personality and Social Psychology 32:829-840.

Sample, John and Rex Warland
1973 Attitude and Prediction of Behavior. Social Forces 51:292-304.

Schramm, Wilbur
1973 Men, Messages, and Media: A Look at Human Communication. New York: Harper & Row, Publishers.

Schuman, Howard and Michael P. Johnson
1976 Attitudes and Behavior. In Alex Inkeles, James Coleman, and Neil Smelser, eds., Annual Review of Sociology, Vol. 2. Palo Alto: Annual Reviews Inc. 161-207.

Seibold, David R.
1975 Communication Research and the Attitude-Verbal Report-Overt Behavior Relationship: A Critique and Theoretical Reformulation. Human Communication Research 2:3-32.

Siegel, E.R., G.R. Miller, and C.E. Wotring
1969 Source Credibility and Credibility Proneness: A New Relationship. Speech Monographs 36:118-125.

Snyder, Mark and Deborah Kendzierski
1982 Acting on One's Attitudes: Procedures for Linking Attitude and Behavior. Journal of Experimental Social Psychology 18:165-183.

Steiber, Steven R. and Leonard A. Ferber
1981 Support for National Health Insurance: Intercohort Differentials. Public Opinion Quarterly 45:179-198.

Summers, G.F. ed.,
1970 Attitude Measurement. Chicago: Rand McNally & Company

Susmilch, Charles E., Gregory C. Elliot, and Shalom H. Schwartz
1975 Contingent Consistency and the Attitude-Behavior Relationship: A Comment. American Sociological Review 40:682-686.

Triandis, Harry C.
1971 Attitude and Attitude Change. New York: John Wiley & Sons, Inc.

Tittle, Charles R. and Richard J. Hill
1967 Attitude Measurement and Prediction of Behavior: An Evaluation of Conditions and Measurement Techniques. Sociometry 30:199-213.

Weigel, Russell H., David T.A. Vernon, and Louis N. Tognacci
1974 Specificity of the Attitude as a Determinant of Attitude-Behavior Congruence. Journal of Personality and Social Psychology 30:724-728.

Weiss, Walter
1969 Effects of the Mass Media of Communication. In Gardner Lindzey and Elliot Aronson, eds, Handbook of Social Psychology, Vol. 5. Reading: Addison-Wesley Publishing Company. 77-195.

Westley, Bruce H
1981 The Controlled Experiment. In Guido H. Stempel III and Bruce H. Westley, eds., Research Methods in Mass Communication. Englewood-Cliffs: Prentice-Hall, Inc. 196-216.

Wicker, Allan W
1969 Attitudes Versus Actions: The Relationship of Verbal and Overt Behavioral Responses. Journal of Social Issues 25:41-78.

1971 An Examination of the "Other Variables" Explanation of Attitude-Behavior Inconsistency. Journal of Personality and Social Psychology 19:18-30.

Winer, B.J.
1962 Statistical Principles in Experimental Design. New York: McGraw-Hill Book Company, Inc.

Wright, W. Russell
1974 The Effect of Perceived Cost and the Perception of Value on Medical Information Seeking. Unpublished doctoral dissertation, Southern Illinois University, Carbondale, Illinois.

Zajonc, R.B.
1980 Feeling and Thinking: Preferences Need No Inferences. American Psychologist 35:151-175.

Zimbardo, Philip G., Ebbe B. Ebbesen, and Christina Maslach
1977 Influencing Attitudes and Changing Behavior. Reading: Addison-Wesley Publishing Company.

Figure 1:

INSTRUMENT FOR MEASURING OVERT BEHAVIOR

Instructions:

The petition on the next page is being sponsored by concerned educators and students asking Congress to speed up passage of legislation to establish a national health insurance program.

You are requested to support the petition by signing it. It is very important to have as many millions of signatures on the petition as possible, and your own signature will be greatly appreciated. However, you are free to do as you wish, for nobody is under any obligation to sign it. If you decide to sign, please choose any one of the seven signature options listed, and sign it.

The sponsors want to send the petition to Congress, and also publicise it by all other means available, including newspapers, radio, television, conferences, and class discussions, so as to make the general public more aware of it, and hopefully draw up more nation-wide support for national health insurance.

P E T I T I O N T O C O N G R E S S

Members of the Senate and
House of Representatives
Capitol Hill
Washington, D.C.

We, the undersigned educators and students, urge you, members of the UHited States Congress, to pass into law as soon as possible legislation now pending in the Senate and the House of Representatives to give this country a national health insurance which the country sorely needs.

As concerned educators and students, we feel that the time has come for a decisive action to be taken to solve one of the nation's greatest social problems, the deteriorating state of our health care system under the control of profit-grabbing private health insurance companies. We strongly believe that our own contribution to the human development of this country can only be more meaningful if everyone is guaranteed good health and medical care as a genuine public service.

By your cooperation, regardless of party differences, you members of Congress have demonstrated your deep understanding of the seriousness of this problem, and we congratulate you for it. But we ask you to delay no longer in passing the legislation into law, for any single day delayed further without this program means that millions of people are kept out of the health care which they need.

Signed:

Signature Options: (Signatures to be cut out later and pasted together)

1. I authorize only my signature on this petition to be used only as an example in class discussions.

   Signed: .....

   Full name: .....

   Social security #: .....

2. I authorize my signature and full name on this petition to be used as an example in class discussions

   Signed: .....

   Full name: .....

   Social security #: .....

3. I authorize my signature and full name on this petition to be submitted to my Congressman only, and never to be published in any form.

   Signed: .....

   Full name: .....

   Social security #: .....

   Congressman: .....

4. I authorize my signature and full name on this petition to be submitted to Congress, but never to be published in the press.

   Signed: .....

   Full name: .....

   Social security #: .....

5. I authorize my signature and full name on this petition to be submitted to Congress, and published in my school newspaper.

Signed: .....

Full name: .....

Social security #: .....

School newspaper: .....

6. I authorize my signature and full name on this petition to be submitted to Congress, and published in my hometown newspaper.

Signed: .....

Full name: .....

Social security #: .....

Hometown newspaper: .....

7. I authorize my signature and full name on this petition to be submitted to Congress, and published in the national press--newspapers, magazine, radio, and television.

Signed: .....

Full name: .....

Social security #: .....

Table 1

REGRESSION WEIGHTS FOR RELEVANCE, CREDIBILITY, AND CONSEQUENCE IN THEIR INFLUENCES ON ATTITUDE CRITERION

Variable	beta	df	t
Relevance	.368	351	7.89*
Credibility	.241	351	4.96*
Consequence	.349	350	4.74*

* $p < .001$

Table 2

CORRELATION MATRIX FOR PREDICTOR AND CRITERION VARIABLES

	Beh.	Att.	Rel.	Cred.	Con.
Behavior	1.00	.32*	.12	.12	.13
Attitude		1.00	.39*	.28*	.34*
Relevance			1.00	-.02	.17
Credibility				1.00	.29*
Consequence					1.00

* $p < .01$

Table 3

ANALYSIS OF VARIANCE SUMMARY TABLE FOR MAIN AND INTERACTION EFFECTS

Source of Variation	df	R^2	F	p<
Consequence (A_1)*	1	.000	0.00	——
Consequence (A_2)	1	.015	8.11	.01
Relevance (B)	1	.094	51.24	.001
Credibility (C)	1	.086	46.55	.001
A_1 x B	2	.033	9.01	.001
A_1 x C	2	.006	1.65	n.s
A_2 x B	2	.048	13.07	.001
A_2 x C	2	.013	3.41	.05
B x C	1	.011	5.98	.05
A_1 x B x C	2	.019	5.05	.01
A_2 x B x C	2	.030	8.23	.001
Residual	335	.645		
Totals	352	1.000		

* In the test of the interaction hypothesis (Hypothesis 2) where the interaction vectors were entered first in a hierarchical regression program before the main effects vectors, the High Consequence vector (A_1) had a tolerance of 0.000, and thus was dropped from the regression analysis. That is why this vector is shown here as an empty vector.

Table 4

SUBJECTS' MEAN ATTITUDE SCORES AS A FUNCTION OF EXPERIMENTAL MANIPULATIONS

Condition	n	mean	s.d.
Control group	46	21.86	7.78
Cell 1: High Cons./High Relev./High Cred.	24	24.92	6.35
Cell 2: High Cons./Low Relev./High Cred.	22	23.32	5.75
Cell 3: High Cons./High Relev./Low Cred.	24	24.25	6.54
Cell 4: High Cons./Low Relev./Low Cred.	24	22.38	5.71
Cell 5: Mod. Cons./High Relev./High Cred.	27	25.41	6.89
Cell 6: Mod. Cons./Low Relev./High Cred.	29	21.59	6.12
Cell 7: Mod. Cons./High Relev./Low Cred.	27	23.96	6.55
Cell 8: Mod. Cons./Low Relev./Low Cred.	26	20.77	5.49
Cell 9: Low Cons./High Relev./High Cred.	26	25.08	6.73
Cell 10: Low Cons./Low Relev./High Cred.	27	23.48	6.41
Cell 11: Low Cons./High Relev./Low Cred.	27	24.30	6.58
Cell 12: Low Cons./Low Relev./Low Cred.	24	21.71	5.59
Grand Mean for the Experimental Groups		23.43	

Table 5

SUBJECTS' MEAN ATTITUDE SCORES AND THE SIGNING OF THE BEHAVIORAL PETITION

petition signing	N	mean attitude score	mean diff.
Signed ("matched")	188	24.75	1.93*
Did not sign ("unmatched")	165	22.82	

* $t = 4.71$, $p < .001$